Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended) A method of humidifying a process gas stream ~~for~~ to a fuel cell, the method comprising:

(a) introducing steam into the process gas stream, so as to humidify the process gas stream at a first temperature and so as to provide the process gas stream with excess humidity;

(b) cooling the process gas stream at a second temperature, lower than the first temperature, to cause condensation of excess moisture;

(c) removing excess condensed moisture from the process gas stream;

(d) delivering the process gas stream at a known, third temperature, whereby the absolute humidity level in the process gas stream is determined from the maximum relative humidity at the second temperature; and

(e) supplying the humidified process gas stream at the third temperature to the fuel cell, and maintaining the third temperature of the process gas stream from step (d) at the third temperature, until the process gas stream reaches the inlet of the fuel cell.

Claim 2 (previously presented) A method as claimed in claim 1, wherein step (d) includes heating the process gas stream to the third temperature, whereby the third temperature is greater than the second temperature.

Claim 3 (cancelled)

Claim 4 (previously presented) A method as claimed in claim 2, which includes introducing steam into the gas stream in an amount sufficient to supersaturate the process gas stream.

Claim 5 (cancelled)

Claim 6 (previously amended) A method as claimed in claim 1, which includes maintaining the third temperature of the process gas stream, by delivering the process gas stream through a supply line, and providing a heating element extending along the supply line.

Claim 7 (original) A method as claimed in claim 2, wherein the first temperature is in the range 10 °C to 120°C.

Claim 8 (original) A method as claimed in claim 7, wherein the second temperature is in the range 5°C to 115°C.

Claim 9 (original) A method as claimed in claim 8, wherein the third temperature is in the range 10°C to 120°C, and wherein the relative humidity of the process gas stream at the third temperature is in the range 0 to 100%.

Claim 10 (cancelled)

Claim 11 (cancelled)

Claim 12 (cancelled)

Claim 13 (cancelled)

Claim 14 (cancelled)

Claim 15 (cancelled)

Claim 16 (cancelled)

Claim 17 (cancelled)

Claim 18 (cancelled)

Claim 19 (previously presented) A method as claimed in claim 1, 2 or 4 wherein step (b) comprises passing the process gas stream through a first heat exchanger, and passing a heat transfer fluid through the first heat exchanger to cool the process gas stream to the second temperature, and step (d) comprises passing the process gas stream through a second heat exchanger and passing a second heat transfer fluid through the second heat exchanger to heat the process gas stream to the third temperature.

Claim 20 (original) A method as claimed in claim 19, which includes passing the first heat transfer fluid through a first temperature control circuit, including a first heater and a third heat exchanger, for controlling the temperature of the first heat transfer fluid, and passing the second heat transfer fluid through a second temperature control circuit, including a second heater and a fourth heat exchanger, for controlling the temperature of the second heat transfer fluid.

Claim 21 (withdrawn) A method of humidifying a process gas stream, the method comprising:

(a) humidifying the process gas stream at a first temperature so as to provide the process gas stream with excess humidity;

(b) cooling the process gas stream at a second temperature, lower than the first temperature, to cause condensation of excess moisture;

(c) removing excess condensed moisture from the process gas stream;

(d) delivering the process gas stream at a known, third temperature, whereby the absolute humidity in the process gas stream is determined from the maximum relative humidity at the second temperature;

wherein step (b) includes passing the process gas stream through a first heat exchanger, passing a first heat transfer fluid through the first heat exchanger to cool the process gas stream to the second temperature, and passing the first heat transfer fluid through a first temperature control circuit including at least a third heat exchanger, for controlling the temperature of the first heat transfer fluid.

Claim 22 (withdrawn) A method as claimed in claim 21, which includes providing, in the first heat transfer circuit, a first heater for heating the first heat transfer fluid.

Claim 23 (withdrawn) A method as claimed in claim 21, which includes, prior to step (d) heating the process gas stream in a second heat exchanger to the third temperature, whereby the third temperature is greater than the second temperature, and passing a second heat transfer fluid through the second heat exchanger to heat the process gas stream.

Claim 24 (withdrawn) A method as claimed in claim 23, which includes passing the second heat transfer fluid through a second temperature control circuit including a second heater and a fourth heat exchanger, for controlling the temperature of the second heat transfer fluid.

Claim 25 (withdrawn) A method as claimed in claim 24, which includes maintaining the third temperature of the process gas stream, by delivering the process gas stream through a supply line and providing a heating element extending along the supply line.

Claim 26 (withdrawn) A method as claimed in claim 25, which includes determining the relative humidity of the process gas stream at the third temperature solely from measured values of the second and third temperatures, and setting the second and third temperatures, to obtain a desired level of relative humidity in the process gas stream.

Claim 27 (currently amended) A method of humidifying a process gas stream ~~for~~ to a fuel cell, the method comprising:

(a) humidifying the process gas stream at a first temperature so as to provide the process gas stream with excess humidity;

(b) cooling the process gas stream at a second temperature, lower than the first temperature, to cause condensation of excess moisture;

(c) removing excess condensed moisture from the process gas stream; and

(d) delivering the process gas stream at a known, third temperature, whereby the absolute humidity level in the process gas stream is determined from the maximum relative humidity at the second temperature; and

(e) supplying the humidified process gas stream at the third temperature to the fuel cell, and maintaining the third temperature of the process gas stream from step (d) at the third temperature, until the process gas stream reaches the inlet of the fuel cell.

Claim 28 (original) A method as claimed in claim 27, wherein step (d) includes heating the process gas stream to a third temperature greater than the second temperature.

Claim 29 (previously presented) A method as claimed in claim 1, were step (a) comprises injecting steam directly into the process gas stream.

Claim 30 (previously presented) A method as claimed in claim 21, were step (a) comprises injecting steam directly into the process gas stream.

Claim 31 (previously presented) A method as claimed in claim 27, were step (a) comprises injecting steam directly into the process gas stream.